

Stopping bioterrorism: Here's how new genetic sequencing can detect altered viruses and bacteria

A new, highly transmissible strain of influenza emerges. A pesticide-resistant insect decimates huge swaths of crops. A patient winds up in the emergency room with a bacterial strain that doesn't respond to any available antibiotics. Any of these scenarios could happen due to natural evolutionary changes among pathogens or pests. But as [genetic engineering](#) gets cheaper and easier, it's becoming increasingly plausible that they might one day be the product of deliberate manipulation.

To guard against these potential threats, the US government is funding the development of tests to detect dangerous bioengineered organisms before they have a chance to cause significant harm. The effort was announced in 2017 by the Intelligence Advanced Research Projects Activity, or IARPA, within the Office of the Director of National Intelligence. In a [livestreamed update](#) in October, IARPA program manager David Markowitz announced that two platforms developed under the program were both 70 percent accurate at identifying the presence of bioengineering.

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"Genetic engineering has been happening for quite a while now, and it's become increasingly easy to do it," said Laura Seaman, principal scientist at Draper, during the livestream. "It's important to understand how these tools are being used and to identify them in an unknown situation."

[**This is an excerpt. Read the full article here**](#)